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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)

Implementation of Section 17 of the)
Cable Television Consumer Protection and)
Competition Act of 1992)

ET Docket No. 93-7

Compatibility Between Cable Systems)
and Consumer Electronic Equipment)

**OPPOSITION AND COMMENTS OF THE
CONSUMER ELECTRONICS GROUP OF THE
ELECTRONIC INDUSTRIES ASSOCIATION**

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SUMMARY

EIA/CEG urges the Commission to affirm the pro-consumer and pro-competitive policies it adopted in this proceeding and to reject the petitions for reconsideration that would have the Commission turn its back on consumers and competition.

The Commission should affirm that the Decoder Interface must separate security functions from other features. In accordance with paragraph 42 of the Order, non-security features and functions should be provided through competitively-supplied means. Thus, consumers should be able to obtain security-only decoders from their cable operators. If consumers can only obtain decoders that also include non-security features, the whole purpose of the Decoder Interface would be defeated because the non-security features would not be competitively provided. The Commission should therefore clarify that cable operators must make security-only decoders available to subscribers.

Restrictions on changing remote control IR codes are necessary to insure that consumer-owned remotes remain compatible. The cable industry and others have asked the Commission to reconsider this requirement. The petitioners, however, have failed to explain how the Commission's goal of compatible consumer-owned remotes can be assured if this requirement is eliminated. Their requests for wholesale relief from this requirement should therefore not be granted.

If the Commission is inclined to modify its IR code rules, it should prohibit cable operators from introducing new equipment that utilizes IR codes for existing functions that were not in use on the date of the Commission's Order, thus ensuring the continued compatibility of the overwhelming majority of "universal" remotes and other IR equipment now in use that have been preprogrammed with the IR codes currently used by cable box manufacturers. Such a requirement would also permit cable operators to change cable box suppliers, while providing some residual degree of protection for consumers.

Several petitioners have argued that IR code restrictions should be imposed on the consumer electronics industry. Their apparent purpose in doing so is to divert attention from the problem identified by Congress -- the cable industry's efforts to render consumer-owned remotes incompatible -- and to avoid the Commission's rules. The Cable Act, however, reflects congressional concern about the compatibility of cable boxes, not consumer electronics. Consumers have a wide array of choices in purchasing consumer electronics equipment, but not so with cable boxes. Therefore, restrictions on IR codes are only appropriate and necessary for monopoly-supplied cable boxes.

In an apparent effort to avoid providing consumers with meaningful information about the incompatibility of cable equipment, one petitioner has suggested that the consumer education requirements imposed upon cable systems operators should be expanded to include information about the potential "obsolescence" of consumer electronics equipment. The concern of the Cable Act, however, is with the compatibility of cable television with consumer electronics equipment, not the obsolescence of consumer electronics equipment, and the Cable Act does not empower the Commission to prescribe educational requirements for consumer electronics equipment. Moreover, the proposed requirement is impossibly vague as it is impossible to determine when equipment becomes obsolete. The Commission should therefore keep the focus of consumer education efforts on the cable industry, as Congress intended.

The upper tuning limit for "cable-ready" receivers should be 804 MHz, not 1002 MHz as suggested by a petition that argues that cable systems may begin using spectrum above 806 MHz. There is no basis for raising the upper tuning limit. Virtually all existing cable systems are built to a maximum of 750 MHz, and that is true of both new and rebuilt systems. The advent of digital compression and new transmission technologies has obviated the need for additional capacity. The expense of sending signals at 1002 MHz and the cost of reconfiguring equipment are likely to discourage cable operators from using this spectrum. The proposed increase in tuning capacity would also increase the cost of receivers to consumers, for no purpose other than to tune currently unused frequencies.

Lastly, the multiple tuner requirement for cable boxes can be more narrowly limited to two tuners, as requested by several petitioners.

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OPPOSITION AND COMMENTS

The Consumer Electronics Group of the Electronic Industries Association ("EIA/CEG") hereby responds to the petitions for reconsideration and clarification of the Report and Order ("Order") that were filed in the above-captioned proceeding on June 15, 1994.¹ As set forth below, the Commission should affirm the pro-consumer and pro-competitive policies of the Order and reject those petitions that would have the Commission turn its back on consumers and competition.

I. INTRODUCTION

As directed by Congress, the Commission has adopted rules and policies in this proceeding that constitute an important step forward in removing some of the obstacles that prevent cable subscribers from utilizing all of the features of their television receivers and videocassette recorders ("VCRs"). Among other things, the

¹ 9 FCC Rcd 1981 (1994). The parties filing petitions for reconsideration on June 15, 1994 are listed in the appendix to this opposition. The abbreviations appearing in the appendix are used in the citations to the petitions referenced herein.

Commission's Order safeguards consumer interests: by prohibiting the scrambling of basic service signals; by requiring cable operators to provide subscribers with simultaneous in-the-clear access to all signals that do not require processing by a cable device; by prohibiting cable operators from disabling subscriber-owned remote control equipment and changing the infrared codes recognized by set-top devices; and by requiring cable operators to conduct consumer education programs regarding compatibility issues.

To deal with the difficult issue of cable/receiver compatibility, the Commission has wisely embraced the use of a standard Decoder Interface to minimize the need for set-top devices and has acknowledged the need for digital cable transmission standards. The Commission has determined that the Decoder Interface should be designed so as to allow all functions other than signal security to be performed in competitively provided consumer electronics equipment.² The Commission should not allow these important achievements to be thwarted by the actions proposed by several of the reconsideration petitions.

The Commission's overriding goal in this proceeding should be to make cable services more consumer friendly. Competition, choice and innovation in the

² The Commission found that the competitive supply of non-security functions "will give product developers and manufacturers, as well as cable systems operators, the ability and incentives to introduce new products and to respond to consumer demand. In return, consumers will have greater access to technology with new features and functions." "FCC Adopts Regulations To Ensure Compatibility Between Cable Systems And Consumer Electronics Equipment," FCC Public Notice, FCC 94-80, at 1 (Apr. 5, 1994).

consumers' use and control of in-home equipment must be maintained. The Cable Act requires nothing less.

II. THE COMMISSION SHOULD NOT VEER FROM ITS PRO-CONSUMER AND PRO-COMPETITIVE STANCE IN REVIEWING THE PETITIONS FOR RECONSIDERATION.

The Commission took a major stride forward in increasing compatibility between cable systems and consumer electronics equipment in the Order. The Commission should insure that these achievements are not lost during the reconsideration process.

A. The Decoder Interface Must Separate Security Functions From Other Features in Order to Permit the Competitive Supply of Non-Security Features.

In paragraph 42 of the Order, the Commission stated "that the Decoder Interface should provide the capability to separate signal access control functions from other functions served through the connector."³ As the Commission explained, "[t]his capability will allow non-security functions to be provided through new products offered by retail vendors or to be incorporated into TV receivers and VCRs, thereby promoting competition in the market for equipment used to receive cable service."⁴ In other words, all non-security features and functions must be provided through competitively supplied means. The Decoder Interface thus frees consumers from being forced to obtain non-security features from their cable operator.

³ 9 FCC Rcd at 1988.

⁴ Id. at 1988-89.

In order for the Commission's Decoder Interface requirement to have any meaning, consumers must be able to obtain a security-only decoder from their cable operator. If consumers can only obtain decoders that also include non-security features, the whole purpose of the Decoder Interface would be defeated because the non-security features would not be competitively provided. It is for this reason that EIA/CEG asked the Commission, in its petition for reconsideration and clarification, to "reiterate that paragraph 42 requires that (1) the Decoder Interface be designed in such a way as to enable all functions other than signal security to be provided in competitively supplied equipment and (2) cable operators be required to offer component descramblers which perform only signal security functions."⁵ EIA/CEG continues to interpret the Commission's Order in this way.

The National Cable Television Association ("NCTA") has also sought clarification of paragraph 42. It has asked the Commission to find "that allowing access control functions to be separated from other functions does not mean that cable operators are precluded from using the Decoder Interface module to provide functions other than the signal access control function."⁶ EIA/CEG does not object to NCTA's request, so long as cable operators are required to provide decoders that only perform security functions. In such an environment, consumers would have a choice among competing suppliers. Consumers could obtain the enhanced, non-security features integrated into television receivers and VCRs, through a set-back module purchased in a competitive

⁵ EIA/CEG Petition at 9-10 (emphasis in original).

⁶ NCTA Petition at 9.

market and connected to a security-only decoder, or through an integrated set-back module containing both security and non-security functions supplied by a cable operator. This competitive scenario will develop only if the Commission unequivocally requires cable operators to make security-only decoders available to their subscribers.

B. Some Restrictions on Changing Remote Control Infrared Codes Are Necessary to Insure That Consumer-Owned Remotes Remain Compatible.

In its Order, the Commission required cable operators to continue to use the same infrared ("IR") codes employed by currently provided cable boxes in any replacement equipment provided to subscribers.⁷ The Commission's purpose in doing so was to "avoid the need for subscribers to replace remote control units they own if the cable operator changes their set-top box."⁸ The cable industry and others have asked the Commission to reconsider this requirement.⁹ The petitioners, however, have failed to explain how the Commission's goal of compatible consumer-owned remotes can be assured if this requirement is eliminated. Therefore, their requests for wholesale relief from this requirement should not be granted. If the Commission is persuaded that some modification of its rules is necessary, EIA/CEG suggests an alternative to the total abandonment of this requirement proposed by the petitioners.

⁷ 9 FCC Rcd at 1992.

⁸ Id.

⁹ NCTA Petition at 3-8; Cablevision Petition at 3-9; CATA Petition at 2-5; Scientific-Atlanta Petition at 4-8; TeleCable Petition at 1-4; GI Petition at 1-17; Time Warner Petition at 1-7; ANTEC Petition at 1-4; Zenith Petition at 4-5.

In support of their requests, the petitioners claim that the Commission's IR code rules are totally unnecessary. More specifically, they assert that cable operators have no incentive to change cable boxes to render consumer-owned remotes useless. General Instrument ("GI") argues that market forces and the current regulatory regime have eliminated the incentive for cable operators to force consumers to use cable operator-provided remotes.¹⁰ Although GI is correct that rate regulation has taken the enormous profit out of providing remote controls, cable operators will still profit more from the provision of remotes than from subscribers using consumer-owned remotes. Moreover, GI's contention that anticompetitive behavior is unlikely is contradicted by history. Congress included remote controls in the Cable Act for a reason: the past abuses of the cable industry in discouraging the use of competitively provided consumer-owned remotes.¹¹ The Commission has not, and cannot, blithely ignore this history as it implements the Cable Act.

The petitioners also attempt to downplay the Commission's concerns about interoperability by arguing that customer-owned remotes are relatively inexpensive. This argument, however, ignores the fact that there are millions of consumer-owned remotes currently in use. This embedded base could be rendered useless if the Commission were to eliminate its IR code requirements. The petitioners also overlook the fact that the

¹⁰ GI Petition at 2-4.

¹¹ It is interesting to note that consumer electronics manufacturers tend to use one set of IR codes for most of their equipment in order to make their remotes compatible with as much of their equipment as possible. Set-top box manufacturers, on the other hand, have used many different sets of IR codes for different models of boxes, making compatibility more difficult.

installed base of preprogrammed consumer-owned "remotes" also includes many VCRs and other devices that are equipped with IR "blasters" that control cable boxes.¹² The cost of replacing all of this consumer-owned equipment would be enormous.

The petitioners also assert that the restrictions on IR codes will tie each cable operator to one cable box manufacturer, thereby stifling competition and innovation. Cable operators, they argue, will be prevented from offering new features, and consumers will be forced to pay higher prices for cable boxes. These arguments do not reflect the reality of today's marketplace. As the petitioners are well aware, the cable industry is increasingly dominated by multiple system operators ("MSOs") that have cable systems located throughout the United States. These MSOs have enormous leverage over their cable box suppliers and are in a position to obtain design features and competitive prices from their suppliers. These MSOs also use equipment supplied by multiple manufacturers. Indeed, even individual cable operators use different brand cable boxes within a single system. This reliance on more than one supplier provides cable operators with the benefits of competition.

Some of the petitioners also claim that the proprietary nature of IR codes will prevent cable box manufacturers from supporting other existing IR codes. These arguments are spurious. Initially, the petitioners are mistaken in assuming that IR codes are proprietary. The codes themselves are not proprietary; rather, only the manner in

¹² Many of the petitioners also claim that consumers will want new remote controls with new function buttons when more advanced set-top boxes are deployed, thus making the problem of useless consumer-owned remotes moot. Consumers, however, will not be willing to replace the vast -- and expensive -- installed base of VCRs and similar equipment with IR "blasting" capability.

which they are transmitted is proprietary. Furthermore, the manufacturers of "universal" remote controls have been able to produce equipment that utilizes the IR codes of most, if not all, cable box manufacturers.¹³ Certainly, the cable box industry is every bit as inventive.

Finally, the petitioners contend that because universal remotes provide compatibility with most systems, there is no compatibility problem for most consumers. The petitioners are correct that preprogrammed universal remotes do provide compatibility with most cable boxes currently on the market.¹⁴ They ignore the problem that would arise if a cable operator were to begin using new cable boxes that use new IR codes. By introducing such equipment, cable operators could render all consumer-owned remotes and other devices with cable box control capability useless. The Cable Act was intended to prohibit precisely this type of abuse. The Commission's prohibition on changing IR codes would prevent such abuse, and the petitioners have not suggested how this problem could be avoided in the absence of such a restriction.

If the Commission is inclined to modify its IR code rules, it should prohibit cable operators, at a minimum, from introducing new equipment that utilizes IR codes for existing functions -- that were not in use on the date of the Commission's Order. Such a requirement would help ensure the continued compatibility of the

¹³ IR codes can be reverse engineered and used by any manufacturer.

¹⁴ Most of the universal remotes currently owned by consumers are of the preprogrammed variety. These remotes are capable of transmitting the IR codes of most of the cable boxes now in use. "Learning" universal remotes constitute only a small part of the market, because consumers find them difficult to operate and because they require another working remote to program them.

overwhelming majority of "universal" remotes and VCR IR "blasters" now in use that have been preprogrammed with the IR codes currently used by cable box manufacturers. Such a requirement would also allow cable operators to change cable box suppliers (so long as the new cable boxes utilize IR codes that were in use on the date of the Order for existing functions), while leaving most consumers with compatible "universal" equipment.¹⁵ In other words, by requiring cable operators to use cable boxes that are backwards compatible (at least for currently available cable box functions), the Commission will have addressed the bulk of the compatibility problem.

Several of the petitioners have argued that, if the Commission finds restrictions on changing IR codes to be good for the cable industry, similar restrictions should be placed on the consumer electronics industry.¹⁶ Their apparent purpose in doing so is to divert attention from the problem identified by Congress -- the cable industry's efforts to render consumer-owned remotes incompatible -- and to avoid the Commission's rules. Their arguments, however, are a red herring.

The Cable Act reflects congressional concern about the compatibility of cable boxes, not consumer electronics. Congress did not intend to impose restrictions on the competitive consumer electronics industry, and the Commission should act accordingly. Consumers have a wide array of choices in purchasing consumer

¹⁵ Cable operators, however, would be free to introduce additional codes for new functions. Although these new codes would not be supported by existing remotes, these remotes could still be used to perform basic functions in use on the date of the Commission's Order.

¹⁶ NCTA Petition at 6-7; GI Petition at 8-9; TeleCable Petition at 4.

electronics equipment. The same cannot be said of cable boxes. Therefore, restrictions on IR codes are only appropriate and necessary for monopoly-supplied cable boxes.

C. Consumer Education Requirements Should Be Limited to Cable Compatibility.

In an apparent effort to avoid providing consumers with meaningful information about the incompatibility of cable equipment, Cablevision suggests that the consumer education requirements imposed upon cable systems operators should be expanded to include information about the potential "obsolescence" of consumer electronics equipment used in conjunction with cable service.¹⁷ The Commission should not be misled by this proposal.

In its petition, Cablevision correctly points out that technological advances frequently overcome consumer equipment, using examples like the compact disc player.¹⁸ From this unexceptional observation, Cablevision somehow draws the conclusion that cable operators should inform consumers about the potential obsolescence of consumer electronics equipment.¹⁹ This is a nonsensical proposal.

To begin with, the concern of the Cable Act is with the compatibility of cable television with consumer electronics equipment, not the obsolescence of consumer

¹⁷ Cablevision Petition at 9-11.

¹⁸ Id. at 9-10.

¹⁹ Additionally, Cablevision argues that "[t]he Commission's rules should not limit operators and equipment-makers to offering only those new products and services that are compatible with the old products and services that they are designed to improve upon or replace." Id. at 10. The Commission's rules require no such thing. New and improved products and services are anticipated and even welcomed by the Commission's rules.

electronics equipment. The Cable Act does not empower the Commission to prescribe educational requirements for consumer electronics equipment. Rather, the Act explicitly sets forth educational requirements for the cable industry (because of its use of cable boxes), that are intended to provide consumers with information on functions in consumer electronics equipment that are frustrated by cable boxes.²⁰ The obsolescence of consumer electronics equipment is not even remotely related to this statutory requirement. Furthermore, Cablevision's proposed requirement is impossibly vague. It is relatively easy to determine whether two pieces of equipment are compatible; they either work together or they do not. It is by no means clear, however, when equipment becomes obsolete. Moreover, even "obsolete" equipment can continue to operate and provide value to the user. Considerable numbers of televisions receivers are still in use, even after twenty years.

Cablevision also ignores the important difference between the cable and consumer electronics industries. As noted above, the consumer electronics industry is highly competitive. The cable industry, by contrast, is not. Indeed, Congress required consumer education for the cable industry because consumers have little choice in cable service. The Commission should therefore keep the focus of consumer education efforts where Congress intended: on the cable industry.

²⁰ The Act requires "cable operators offering channels whose reception requires a converter box to notify subscribers that they may be unable to benefit from the special functions of their television receivers and video cassette recorders" 47 U.S.C. § 544A(c)(2)(B).

If Cablevision believes that consumer education efforts are really needed regarding the potential "obsolescence" of consumer electronics equipment, there is nothing in the Order that prohibits Cablevision from voluntarily doing so. The Commission, however, should not require cable operators to speculate on the future usefulness of such equipment.

D. The Upper Tuning Limit For "Cable-Ready" Receivers Should Be 804 MHz.

In its petition, the Cable Telecommunications Association ("CATA") has suggested that "cable-ready" television receivers should be capable of tuning up to 1002 MHz rather than 806 MHz, as ordered by the Commission.²¹ CATA argues that cable systems may begin using spectrum above 806 MHz and that the Commission should plan for that possibility by requiring the higher tuning capability.²² The Commission should deny CATA's request.

The debate over this issue began in 1993 when the Commission proposed 750 MHz as the upper tuning limit for "cable-ready" receivers. In January 1994, the Cable-Consumer Electronics Compatibility Advisory Group proposed an upper tuning limit of 800 MHz, with the option of increasing the requirement at a later date to 1 GHz, if necessary.²³ The Commission's Order prescribed an upper tuning limit of 806

²¹ CATA Petition at 6-8.

²² Id. at 7.

²³ See Comments of Cable-Consumer Electronics Compatibility Advisory Group at 21, (Jan. 25, 1994).

MHz.²⁴ In its petition, EIA/CEG requested that the limit be changed slightly from 806 MHz to 804 MHz, so as to conform with other requirements in the Order.²⁵

Contrary to CATA's claims, there is no basis for raising the upper tuning limit for "cable-ready" receivers to 1002 MHz. Virtually all existing cable systems are built to a maximum of 750 MHz, and that is the current trend among both new and rebuilt systems, including those with new digital network plant being deployed by telephone and cable companies. Only three systems have been built with a maximum operating frequency of 1 GHz, and this was done merely to provide additional channel capacity for marketing test trials. The advent of digital compression and new transmission technologies has obviated the need for such additional capacity. Digital compression can expand capacity enormously without requiring the use of spectrum above 750 MHz. CATA itself candidly admits that compression techniques may limit the need for more spectrum.²⁶ For example, current digital compression will allow the transmission of two full HDTV signals or multiple standard definition signals within a standard 6 MHz cable channel bandwidth. Future technology may permit even greater compression; therefore, there will be no need for additional bandwidth beyond 800 MHz.

There is also no indication that cable systems will want to use spectrum above 750 MHz for cable transmissions. The expense of sending signals at this level and the cost of reconfiguring equipment are likely to discourage cable operators from using

²⁴ 9 FCC Rcd at 1996.

²⁵ EIA/CEG Petition at 10.

²⁶ CATA Petition at 7.

this spectrum any time soon. If this spectrum is ever used, it will likely be for digital transmissions.²⁷ Therefore, any decision increasing the upper tuning limit for "cable-ready" receivers should be made in conjunction with the adoption of digital standards for cable transmissions. EIA/CEG eagerly awaits the Commission's initiation of a proceeding to establish digital standards.

Moreover, increasing the upper tuning limit to 1002 MHz would place a substantial burden on the consumer electronics industry and, ultimately, consumers. Tuners with higher capacity are more expensive. As a consequence, the proposed increase in tuning capacity would increase the cost of receivers to consumers, for no purpose other than to tune currently unused frequencies. The higher requirement would also discourage the consumer electronics industry from producing "cable-ready" receivers because of this additional, unnecessary cost. Consumers should not be denied the option of purchasing the most cost effective receivers capable of tuning cable channels. The upper tuning limit for "cable-ready" receivers should therefore be established at 804 MHz, for the reasons set forth in EIA/CEG's petition for reconsideration.

E. The Multiple Tuner Requirement For Cable Boxes Can Be More Narrowly Limited.

Several parties have asked the Commission to modify Section 76.630(d)(2)(i) of its newly adopted rules, which requires cable boxes to provide simultaneous reception of two or more scrambled or encrypted signals through multiple

²⁷ It appears equally likely that spectrum above 750 MHz will be used for non-video applications such as data and return communications. Because these services do not include video signals that would be received by television receivers, there is no need for tuning capacity in this bandwidth.

tuners.²⁸ The petitioners argue that the Commission's requirement is limitless, because some consumer electronics equipment is capable of receiving nine or more signals at once, and the cable industry would be burdened with the cost of providing a large number of tuners in cable boxes. EIA/CEG does not oppose limiting the requirement to only two tuners, nor does EIA/CEG contest the petitioners' argument that a greater requirement has limited demand and may be uneconomic.²⁹ EIA/CEG, however, does wish to note that if the multiple tuner requirement is limited to two, some consumer electronics features, such as multiple picture-in-picture, and the use of multiple VCRs will not be compatible with scrambled or encrypted cable signals.³⁰

²⁸ NCTA Petition at 10; Scientific-Atlanta Petition at 9-11; CATA Petition at 6.

²⁹ See Scientific-Atlanta Petition at 9.


³⁰ CATA argues that the cost of providing more than two tuners would be burdensome to the cable industry. EIA/CEG is sympathetic to this argument. EIA/CEG only wishes that CATA displayed the same sensitivity to cost in the context of the upper tuning limit for "cable-ready" receivers. If the multiple tuner requirement is to be limited because of cost and low demand, then the upper tuning limit should also be limited to 804 MHz because of the significant cost of providing additional tuning capacity for which there is no current demand.

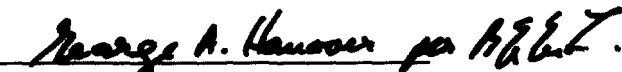
III. CONCLUSION

For all of the reasons set forth above, EIA/CEG urges the Commission to affirm its pro-competitive policies and deny the pending petitions to clarify and reconsider the Order as outlined above.

Respectfully submitted,

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July 28, 1994

APPENDIX

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Cablevision Systems Corporation ("Cablevision")

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National Cable Television Association, Inc. ("NCTA")

Scientific-Atlanta, Inc. ("SA")

TeleCable Corporation ("TeleCable")

Time Warner Entertainment Company, L.P. ("Time Warner")

Zenith Electronics Corporation ("Zenith")

CERTIFICATE OF SERVICE

I, Jeffrey A. Campbell , do hereby certify that copies of the foregoing Opposition and Comments of the Consumer Electronics Group of the Electronic Industries Association were served via first class mail or hand-delivered on the persons listed on the attached list on this, the 28th day of July 1994.



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